

JOURNAL BOX

7/76

EDITORIAL.

I was interested to note that the Editorial in the May/June A.M.R.M. seemed to compliment the one I produced in 1972. It would appear that things have not improved much for the modeller in 4 years.

I suppose that this is about what we deserve. Let us face it - the 800 or so members of AMRA are not a very big voice amongst the thousands of people interested in model railways in Australia, and it would appear that may be most of them are interested only in toy trains. At least that is what the sales figures appear to indicate. I am sure the toy manufacturers would not continue with repaints if there was not a market for them.

So where does that leave us? Should we continue to bang our heads against that brick wall, or stop and realise how good it feels just to be alive?

Rex Little.

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ON THE COVER.

A scene on the HO layout of Alan Templeman.

Photo by A. Templeman.

Issue 120.

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THE SECRETARY'S DESK



By the time you are reading this page of wisdom, renewal notices and voting forms will have been sent out, and, as is common with all accounts, please return yours if you are renewing. If you are not, we would appreciate knowing your reason for resigning.

Also if any member in the Sydney area feels he has any hankering to be on the Federal C.O.M. just nominate yourself and return the form before the closing date. Meetings are held once a month on the first Friday night. You could get involved with assisting with the duplicating and collating of various booklets from time to time.

I would draw your attention once more to the fact that when a person joins AMRA, it is the Federal body that they join, and this automatically makes them a member of the state branch of the state in which they reside. Whether they make use of the branch is entirely up to the member. This means, if a member for some reason wishes to resign, it is from the federal body, and the Federal Registrar is the person to contact.

It is rather early to decide on the number of Journals we may be able to afford next year. We would greatly like to get back to six issues, but until such time as costs show some signs of stabilizing, four is our maximum. No one has yet come up with any suggestions on a cheaper production method which would maintain our present standard.

Model railways are still holding their own and Exhibitions draw good crowds, but this will only continue whilst these shows are well presented, with something of interest to all.

I would draw attention to the modelling competitions held each year, closing on the 31st January. These are for scratch built locos; loco kit conversions; rolling stock kit conversions; scratch built carriages, scratch built goods stock and lineside structures. I realise there are difficulties with interstate members participating in getting entries there and back intact, but if there is a will, there will be a way.

Please do not forget to return the account forms along with your renewal subscriptions.

Norm Read.

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SIMPLE OPERATION OF MODEL RAILWAYS

By P.J. Betts.

Introduction.

Of all the articles that are written on Model Railways, few are devoted to operating procedures. Information on prototype operating procedure is hard to come by and is usually picked up in passing references only. The purpose of this article is to piece together the information collected, and experience gained by the author over many years of operating Model Railways.

The procedures to be described are heavily biased in favour of a system simulating a British branch line terminus on steam days. Unlike the typical Australian Branch line which handles one mixed train daily or less, the British equivalent would typically handle two trains an hour or more and therefore gives one greater scope.

The reason for Britain abounding in branch lines is because the original main lines were forced to avoid the smaller towns. Later these towns demanded railway connections which could only be achieved by building branch lines.

Types of Trains.

An understanding of different types of trains and locomotives is necessary before a time-table can be written. There are at least 10 different types of trains in common use and these may be classified as follows:

1. Auto-Trains, Push-pull Trains or Railmotors. These terms refer to trains where the locomotive or motor coach may equally well be connected to either the back, front or middle of the train, driving compartments with remote controls being provided in the leading coach. The locomotive is always a tank engine and the trains operate over very short distances.

2. Local or Stopping Passenger Trains. These are short distance trains consisting of conventional non-corridor coaches which stop at every station. They are usually hauled by tank engines.

3. Semi Fast or Express Passenger Trains. These are long distance trains consisting of corridor coaches which stop at important stations only, the term "Express" referring particularly to special named trains. Such trains travelling on a branch line may be full length through trains hauled by a tender locomotive or, more commonly, through coaches which have been detached from another fast train at the main line junction. In the latter case the locomotive may well be a small tank engine.

4. Mixed Trains. These are basically passenger trains which may include a number of goods vehicles. In British practice, the passenger vehicles are always connected next to the engine and the train must include at least one goods type brake van.

5. Fast or Fitted Goods. These are long distance trains consisting of conventional goods vehicles each fitted with automatic brakes controlled from the locomotive. They are employed for the transportation of perishable goods and run at passenger train speeds. A mixed traffic loco would be ideal motive power for these trains.

6. Ordinary or Through Goods. These are long distance trains where the goods vehicles are not fitted with automatic brakes and therefore run at considerably lower than passenger train speeds. A goods tender loco would be appropriate for these trains.

7. Local or Pick-Up Goods. These are short distance goods trains which may stop at any station or siding where vehicles are to be attached or detached. They are typically powered by tank shunting engines or any old crotch available.

8. Parcels Trains. These trains usually consist of passenger type bogie brake vans and transport parcels, newspapers and other non-bulk merchandise. They travel at passenger train speeds and are typically powered by mixed traffic locos.

9. Inspection Trains. These typically consist of a loco and one vehicle for special or V.I.P. services which may be stopping at any point along the line.

10. Light Engines. These are simply a locomotive or locomotives coupled together with just a brake van or no train at all.

Time-Tables.

In order to operate model trains in a disciplined manner, a time-table is necessary. If a model of a real location has been built, a real working time-table may be used. However, a real time-table which calls for say two trains per hour is much too slow for model operation and a speeded-up clock would be necessary if working to time was contemplated. It is more common for modellers to build layouts of fictitious locations and here the way is wide open to compose one's own time-table based either on a real or fast clock or just to a sequence.

When operating under home conditions with a small expert group of helpers, a time-table demanding much shunting and reconstituting of trains may be desirable. Under exhibition conditions or open club running sessions however, a complicated time-table will be a disaster. It is the simple time-table that will be described in this article for this is the one that will be called for most of the time.

A regular service of short distance stopping passenger trains forms the basis of a repetitive sequence. If these are the type known as either "Auto-trains", "Push-pull trains" or "Rail-motors" all the better for they need no turning or shunting. An Auto-train arrival on the hour followed by a similar departure directly after will establish a period where an operator will have time to carry out any shunting or light engine manoeuvres associated with previous trains, while simultaneously observing the coming and going of two trains which will have required the very minimum of attention from him. The arrival and departure of two other trains at approximately half past the hour may complete the basic sequence. The other trains can consist of one longer distance passenger train and one goods, or two passenger trains one hour and two goods the next.

A total of four trains per hour of the type described would be typical of an important branch line which catered for light industries. If this is scaled down with a clock running at 5 times full speed, there will be an average of one train arriving or departing every 3 minutes. This is very intense operation and should be busy enough to satisfy any spectator.

In order to maintain this intensity, shunting and loco movements must be simple. The use of tank engines which do not need to visit the turn-table simplify matters. Goods trains should be short enough to be handled in one piece and after arrival should simply have their brake vans shunted onto the other end of the train to make them quickly ready for departure again.

An added advantage of the time-table described is that there are only four times in the hour to remember and the sequence may be repeated indefinitely, the only variations being in the type of the goods trains and longer distance passenger trains.

Bell Communication.

In the golden days of railways, and even today in some locations, signalmen communicated with each other by Bell signals. The same method of communication may be used between operators working a model railway.

There are a vast number of messages in the prototype Bell Code, and they vary to some degree between companies. Only a small proportion of them are needed on the model railway. The following list are the codes that the author has found most useful.

They are based on those used by the British "Southern" railway, not necessarily due to bias towards that company, but for the reason that the "Southern" employed a large range of train description codes which, with a little modification, make model operation more interesting. The codes listed under the headings "Repeat Signal" and "Mixed Train" are completely unauthentic.

All codes must be preceded by "Call Attention" except those underlined. All codes must be acknowledged by the receiving signalman by repeating the same code. Acknowledgement of an "Is line clear" code indicates that the train is accepted. If the line is not clear, the code is simply not acknowledged and it is then up to the sending signalman to repeat the message at regular intervals until acceptance is received.

The "Train Entering Section" code is given when, having been accepted, the train is sent on its way and passes the signal box of the sending signalman. This message lets the receiving signalman know that the train has entered the section controlled by the sending signalman and also gives the receiving signalman authority to offer the train forward to the next section ahead.

The "Train Out of Section" code is given by the receiving signalman when the train passes his signal box. This indicates to the signalman who sent the train that the train has passed out of his section.

Bell Code.Call sequence.

<u>1. Call Attention</u>	1
2. Is line clear for express passenger	4
3. Is line clear for stopping passenger	3 - 1
4. Is line clear for auto train	1 - 3
5. Is line clear for mixed train	5
6. Is line clear for parcels train	4 - 2 - 2
7. Is line clear for fast goods	3 - 2 - 4
8. Is line clear for ordinary goods	3 - 2
9. Is line clear for local goods	2 - 3
10. Is line clear for inspection train	2 - 3 - 2
11. Is line clear for light engine	4 - 1
<u>12. Train Entering Section</u>	2
<u>13. Train Out of Section</u>	2 - 1
<u>14. Obstruction Danger</u>	6
<u>15. Please repeat Signal</u>	2 - 2 - 2
16. Cancelling signal	3 - 5
17. Opening signal box	5 - 5 - 5
18. Closing signal box	7 - 5 - 5

Operating Procedure.

A point-to-point layout consisting of a terminus station and a fiddle yard is the simplest system on which to carry out operations that resemble those of a real railway. A minimum of 3 operators are needed on such a system and these are as follows:

(A) Station Operator, who must do all shunting, route setting and signalling in the station area.

(B) Fiddle Yard Operator, who must organise the turning of trains and signalling in the fiddle yard.

(C) Driver, who must drive all the trains and obey the signals.

The sequence of operations for a train leaving the terminus would be as follows

(1) Operator A calls the attention of Operator B by Bell Code a minute or two before the train is due to depart.

(2) After receiving acknowledgement of the "Call Attention", A offers B the train with the appropriate "Is the line

clear" code.

(3) Operator A sets all the points to the right route for the anticipated departure.

(4) When acceptance of the train is received Operator A sets the starting signal in the "Clear" indication.

(5) Operator C who has been observing the clock waits for the departure time and then drives the train out. If

acceptance of the train is not received before departure time, the train may be allowed to leave, but must be held at the outer home signal or the outermost limits of the section controlled by Operator A.

(6) Providing "B" has accepted the train, "A" then gives the "Train entering section" bell code and B acknowledges.

(7) Operator A sets the starting signal back to danger after the whole of the train has passed the signal.

(8) When the train arrives at the location controlled by Operator B, he sends the "Train out of section" bell

code and "A" acknowledges.

Assuming these operations are carried out on single track, the next train cannot be offered until the "Train out of section" code is acknowledged. If double track is used, trains travelling in opposite direction may overlap. However, overlapping of trains on a model railway should be avoided for it leads to unnecessary complications.

Conclusions.

The subject of Model Railway operation has just been touched in this article.

It would require a large book to cover all aspects, but for those who are just beginning it is hoped that some sort of guide to simple operation will be obtained.

The procedures that have been described are in some cases matters of opinion and in others personal preferences. It is up to the individual to formulate his own rules, right or wrong, but however, the closer the rules are to prototype practice, the greater will be the contentment of all involved.

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SHINOHARA PREISER

By Bruce Norton.

PRINTED CIRCUIT BOARD PRODUCTION

Photos by Bruce Norton.

Have you ever seen an electronic project that utilizes a printed circuit board and as much as one would like to build it, has given up, due to a lack of the necessary equipment or facilities? I hope that this article will prevent further despair and encourage greater use of printed circuit boards (actually printed wiring, further referred to as pcbs) in the construction of electronic projects for model railways. For those unfamiliar with pcbs or their production, a brief description follows:

Firstly we must consider the materials pcbs are made of. For our applications the main material used for the base board is synthetic resin bonded paper laminate (S.R.B.P. laminate), commonly referred to as phenolic board. To this base board is bonded a copper foil which after etching will form printed wiring. Materials other than S.R.B.P. are used for the board, but for our uses the extra expense of glass fibre boards is unwarranted.

The usual methods of production include silk screen printing, lithographic off-set printing and by photographic processes. Photographic methods are most common and involve a number of steps that require specialist equipment such as a large frame camera, enlarging gear and an ultra violet light source. Furthermore the use of special film, photo-resist emulsion and developer add expense to low quantity production.

Now that the preamble has been dispensed with I will plough into methods I have used to produce pcbs for various projects.

First attempts involved the tracing of a published diagram onto the copper side of the board with carbon paper and then using enamel paint to fill in the areas where the copper foil was to remain after etching. At that time I was able to get the copper etched at my brother's place of employment.

The etchant is ferric chloride and is available through chemical suppliers in either liquid or dry solid form. The latter is preferable as it is safer to transport and store. Also it is easier to produce a higher concentration of etchant and thus speed the etching process. When last purchased dry solid ferric chloride cost about \$1.20 for 500gm, sufficient to etch about six boards, depending on the size of board and the amount of copper to be removed. When handling the ferric chloride take care as it will absorb moisture from the skin which may cause burns, so if handling with bare hands wash promptly under plenty of water. A better idea is to use tongs, plastic or wooden ones, not metal.

For a given size of board it is best to select a plastic or glass tray or dish with only a slightly larger base area than that of the board. The reason for this is to have as little solution in the tray as possible so as to maintain a high concentration. Hot, but not boiling, water helps speed the etching process and the solution must be agitated so as to provide a continual flow over the copper.

The second method makes use of masking tape to cover areas of copper foil that were required to remain after etching. For this method the diagram indicating the printed wiring is traced using carbon paper onto masking tape which has been layed out on a piece of glass. Then using a craft knife carefully cut out the necessary areas required. Peel back the shapes and place on copper surface as indicated on the original diagram. Small errors in placement of patterns can be tolerated as the leads of most components are long enough and can be easily bent to fit.

Both methods may seem a bit fiddly, but take my word, they do produce the required results. For greater accuracy

the first method is superior to the second, but for speed in producing simpler designs in less time the second is the better choice. Even so, using the first method it is possible to produce a pcb ready for component soldering in an afternoon.

A special caution to be taken before going too far with the copying of the printed wiring diagram is to check that you are copying the foil side of the pcb diagram and not the component side. (From the component side the printed wiring pattern is reversed to that which is required on the copper foil side.)

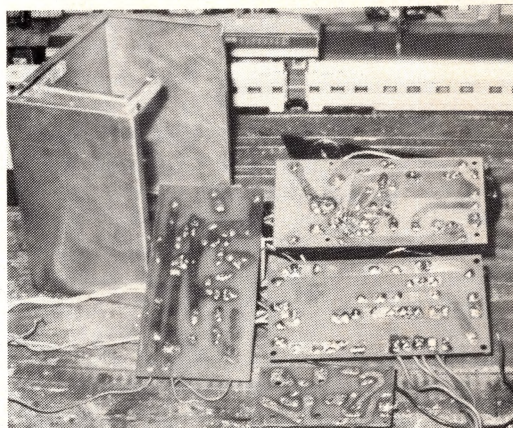
When ready for etching, prepare the ferric chloride solution and check that the paint has taken or that the edges of the masking tape patterns are down firmly. Drill a small hole somewhere in the board where the copper will be etched and tie a short length of string through it, this will allow easy removal of the board when etching is completed. (Saves your fingers).

Place board in the solution with the foil side up and agitate until the foil has completely disappeared. Remove and examine for areas of unetched copper, if visible return to the solution. Again remove and examine, if satisfied lift the masking tape or remove the paint by rubbing with fingers, paint stripper or rubber. If the paint was not completely dry before etching it will rub off easily. When using paint stripper do not leave in contact with the phenolic board for longer than necessary. Wash the board under running water when ever it is removed from the solution. Using a fine abrasive cleaner, clean the copper foil, I use fine pumice powder with water.

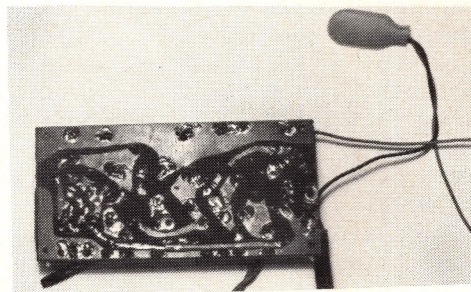
If you have a multimeter check the copper foil patterns for low or high resistance copper traces by using the extremes of resistance scales. For those without, use the output of your powerpack in series with a small light globe, such as a grain of wheat bulb. If between foil patterns a resistance reading results or the lamp glows, a

trace of copper remains. Using a sharp knife scrape the area between the foil sections.

Mark the position of holes for the location of components with a fine point marking pen or pencil. Ensure that all holes are marked and using a small drill (0.8 - 1.0mm, for most components) proceed to drill holes in the board from the foil side. Check that all holes have been drilled since it is often difficult to drill holes after components have been mounted. Lightly clean the copper again if it



A selection of pcbs. From top right S.C.R. controller, high frequency generator (removed from box near-by), light flasher and on the left another SCR controller.



5 x 10cm board unit was produced for steam exhaust and whistle sounds, but only whistle worked.

has become tarnished or finger marked, as the ease of soldering depends on the cleanliness.

Assemble the collection of components to be mounted and carefully bend their leads so that they fit their required location on the board. Remember to place all components on opposite side to the copper foil. Complete a dry run of component locations, observe and check polarities, values and device classifications. Bend leads on the foil side so that the components will not fall out when the board is inverted for soldering.

Several points which should be observed when soldering components to pcbs, in general electronic work and layout wiring are:

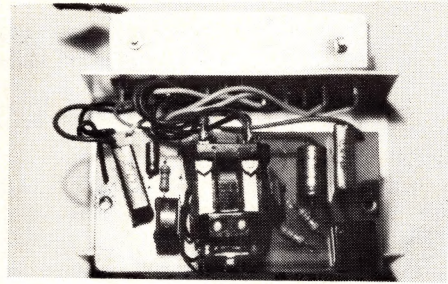
1. Always use a resin flux cored solder known as electrical and radio alloy (60% tin/40% lead).
2. Keep the iron's tip correctly shaped and well tinned.
3. Use an iron with the appropriate power rating, for most work 30/40 watts is sufficient.
4. Attach crocodile clips or pliers to the leads of electronic components between the component and the point of soldering so as to act as a heat sink.
5. Maintain iron contact with foil and leads only for as long as is necessary for good soldered connections. (Excess or prolonged contact may cause foil to become unbonded).

Solder components to board and trim off excess lead as close as possible to the board. Add wire connections to the board by the same method as for components.

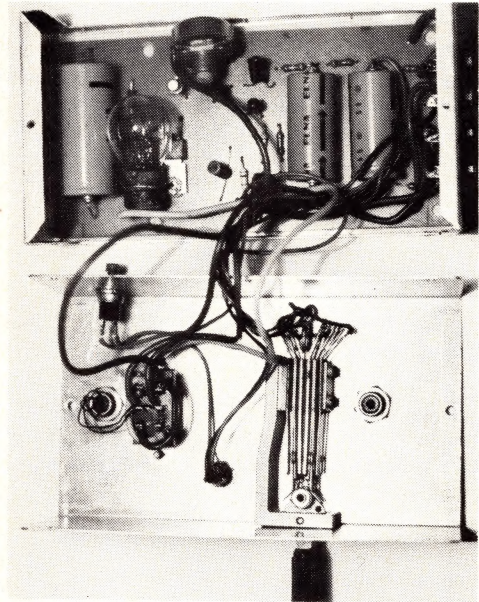
Finally check all components for correct locations, polarities and values.

Your pcb is now ready for testing as usual with tag wired electronic circuits.

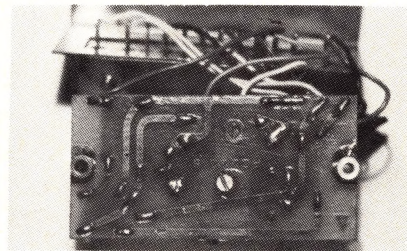
In a later issue of the Journal, a constant lighting high frequency generator will be described which will utilize a printed wiring board to simplify construction and wiring while resulting in a neater appearance.



Component side of a commercial pcb in this case for a temp switch. (Thermistor element motor protection).



S.C.R. controller from Kalmbacks "Practical Electronic Projects For Model Railroaders" by P.J. Thorne.



Foil side of commercial pcb for temp switch.

By Bruce Norton

RAILWAY WHEEL & TRACK STANDARD SPECIFICATIONS

Photos by Author

Introduction.

Railway standard dimensions, in particular those relating to wheels on axles negotiating pointwork, are derived from a number of simultaneous equations each equation representing a limiting condition to which all vehicles and all pieces of trackwork must conform.

Many such standards that already exist have, to some extent, been derived by trial and error and this applies to the prototype as well as to model railways. Although railways can be made to work by trial and error, it is better that faultless running be achieved by a process which involves a full understanding of the limits clearances and tolerances involved.

Limiting Conditions.

The conditions that must be met when a wheel set travels through a rail crossing are listed as follows. Reference should be made to Figs. 1 and 2 and to the section headed "Terminology" for an understanding of the terms used.

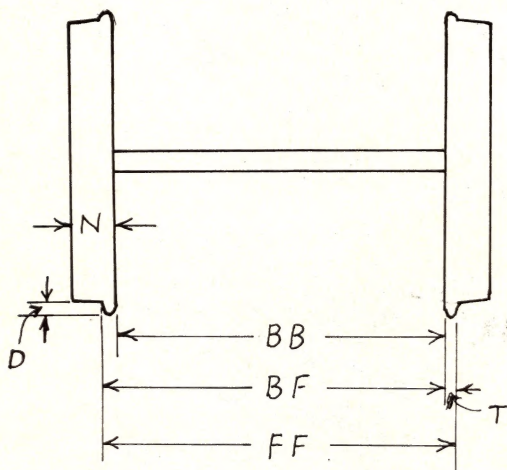


Fig. 1.

1. The minimum dimension of either flangeway must be greater than the dimension of the widest permitted flange by a specified amount, the amount being defined as the minimum flangeway clearance, i.e. $T_x = F_n - c_{lf}$. This condition is critical.

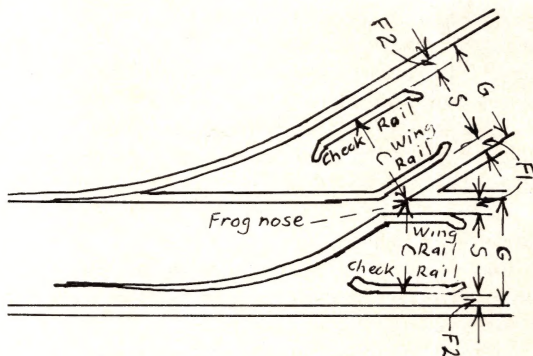


Fig. 2.

2. The maximum dimension of the crossing flangeway must be such that the narrowest permitted wheel is adequately supported by the wing-rail at the instant that the wheel crossed the nose of the frog, see Fig. 3, i.e. $N_n = Flx(1 + \sec A) + c_{ln}$. For practical purposes, this formula may be approximated to $N_n = 2Flx + c_{ln}$. On the prototype, the minimum overlap (c_{ln}) specified here must be quite large but it is not critical. On model railways this clearance may be reduced to zero or even to a small negative value without any noticeable effect on the smooth running of trains.

3. The minimum dimension of the check-gauge must be greater than the maximum permitted back-to-front dimension on wheel sets by a specified amount, the amount being defined as the check-gauge clearance, i.e. $BFx = C_n - c_{lc}$. This

Terminology.1. Dimensions.

FF = Effective front of flange to the effective front of the opposite flange
(Front-to-front)

BF = Back of flange to the effective front of the opposite flange (Back-to-front)

BB = Back of flange to the back of the opposite flange (Back-to-back).

N = Wheel tyre width.

T = Effective flange width.

G = Vertical contact face of the running rail to the vertical contact face of the opposite running rail. (Track-gauge).

S = Vertical contact face of the check-rail to the vertical contact face of the wing-rail (Span).

C = Vertical contact face of the wing-rail to the vertical contact face of the frog (Crossing Flangeway).

F2 = Vertical contact face of the outer running rail to the vertical contact face of the check-rail (Check Flangeway).

2. Clearances.

clf = Minimum total horizontal clearance between the flange and the flangeway
(Flangeway clearance).

cln = Minimum tyre overlap on the wing-rail.

cls = Minimum total clearance between the backs of the flanges and the check-rail and wing-rail (Span clearance).

clg = Minimum total clearance between the fronts of the flanges and the running rails (Track-gauge clearance).

clc = Minimum clearance between the front of the flange and the theoretical point of the frog (Check-gauge clearance).

clr = Minimum tyre overlap on the running rails.

3. Tolerances. (see note 5.)

dt = Positive tolerance on the flange depth.

ut = One basic unit of trackwork tolerance.

ft = Positive tolerance on the crossing flangeway.

bt = Negative tolerance on the back-to-back and the positive tolerance on the back-to-front.

tt = Positive tolerance on the flange width.

gt = Positive tolerance on the track-gauge.

nt = Negative tolerance on the tyre width.

Notes.

1. Where a symbol is shown with a suffix "x", it indicates that the dimension is a maximum.

2. Where a symbol is shown with a suffix "n", it indicates that the dimension is a minimum.

3. Where no suffix is shown, it indicates that the dimension is the nominal or preferred value.

4. All clearances are shown as algebraic values, a negative sign indicating an interference (or failure to overlap in the case of "cln" and "clr").

5. A tolerance is defined as the magnitude by which a dimension may depart from its nominal value in a given direction.

6. Where the symbol "F" is shown without a numerical suffix, it indicates either or both flangeways.

7. The term "Prototype" refers to that appertaining to a real railway.

clearance is not critical on model railways. Even on the prototype a small interference is tolerated. The amount of interference that can be tolerated depends on the degree by which the frog is cut back and tapered from its theoretical point and the extent to which the front profile of the flange can cope with the interference without the flange tending to climb the rail at the frog-nose.

4. The maximum dimension of the span must be less than the minimum permitted back-to-back dimension on wheel sets by a specified amount, the amount being defined as the span clearance, i.e. $BBn = Sx + cls$. This condition is critical.

5. The minimum dimension of the track-gauge must be greater than the maximum permitted front-to-front dimension on wheel sets by a specified amount, the amount being defined as the track-gauge clearance, i.e. $FFx = Gn - clg$. This condition is critical. The clearance, and likewise the flangeway and span clearances, must be large enough to accommodate the offsetting effect of the wheels of a multi-wheeled rigid

wheelbase vehicle on sharp curves, see Fig. 4. In addition, the track-gauge clearance also serves as one means of coping with irregularities in the horizontal plane that often occur at track joints and the toes of point-blades.

6. The maximum dimension of the track-gauge must be such that when the narrowest permitted wheels are combined with the narrowest permitted flanges on wheelsets employing the minimum permitted back-to-back dimensions, the wheels are adequately supported on the running rails, i.e. $Gx + clr = BBn + Nn + Tn$. This condition is critical. On the prototype the minimum overlap (clr) specified here must be quite large since small overlaps will cause unacceptably large rail and wheel stresses. On models " clr " may be minimal and to avoid the necessity of stipulating a minimum flange width, it is common to stipulate that " clr " must be at least equal to the actual flange width, in which case $Gx = BBn + Nn$.

Trackwork Tolerances.

There must be finite tolerances between any nominal dimension and its critical limits. The tolerances should be large enough to allow at least for manufacturing inaccuracies and, if possible, have limits large enough to

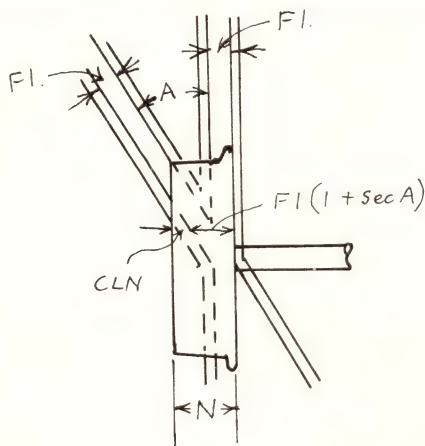


Fig. 3.

Fig. 3.

Note that for the wheel tread to ride on the wing-rail at the instant that contact is lost from the frog-nose " N " must be greater than $F1(1 + \sec A)$.

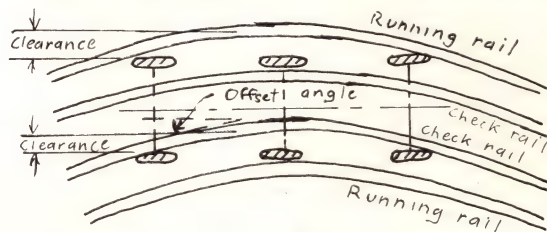


Fig. 4.

Fig. 4.

Rail level section of the flanges of a 6 wheeled rigid wheelbase vehicle on a sharp curve. Note how all the clearance is used up to accommodate the offsetting of the wheels.

accommodate a large range of propriety lines.

Once a set of dimensions representing limiting conditions for track crossings has been decided, the tolerances that these dimensions represent may be established. This is most easily achieved by a diagrammatic analysis. In every case, the nominal dimension should be on the right side of the limiting dimension by an amount which is no less than a specified tolerance. This is shown in Fig. 5.

Wheelset Tolerances.

It is important that there is as large a tolerance as practicable on the back-to-back and back-to-front dimensions as these are difficult to achieve with precision and are the ones which vary most from one propriety line to

another. The magnitude of the negative tolerance on "BB" is assumed to be the same as the positive tolerance on "BF".

As stated previously it is not necessary to stipulate a lower limit to the flange width, but an upper limit is essential. For manufacturing purposes, only a small tolerance is needed on the flange, but flange dimensions vary greatly between propriety lines so it is of value if the positive flange tolerance is quite large. It is worth mentioning at this point however, that the wider the flanges are made, the smaller will the tolerance be on the back-to-back and vice-versa.

It is assumed that "FFx" occurs when "BFx" is combined with "Tx" and therefore the positive tolerance on "FFx" is the addition of "bt" and "tt". Additional formulae may now be written as follows:

$$FFx = BFx + Tx$$

$$BFx = BB + T + bt$$

$$BBn = BB - bt$$

$$Tx = T + tt$$

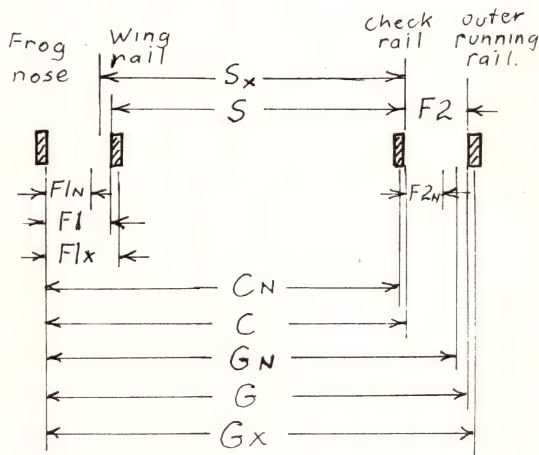


Fig. 5.

Fig. 5.

A similar diagram may be drawn in which the dimensions are represented by a set of gauges, the feelers of each gauge representing a constraint on a limiting condition. This is shown in Fig. 6 and as drawn, the same tolerance of 1 unit is depicted between each rail and each constraining feeler.

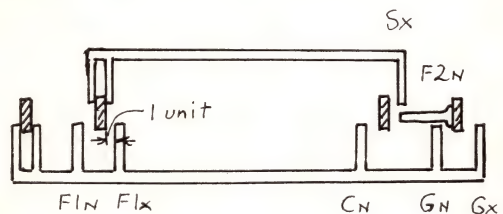


Fig. 6.

Fig. 6.

For practical applications there are shortcomings in the system illustrated in Fig. 6.

It is desirable that all limiting dimensions should be independent of each other. In other words it should be possible for any two dimensions to be at their limit without forcing a third dimension to go outside its limit. For instance, according to Fig. 6, if $C = C_n$ and $S = S_x$ "F1n" will be less than "F1" by 2 units of tolerance. Similarly, if $F1 = Flx$,

$S=S_x$ and $G=G_n$, "F2n" will be less than "F2" by 3 units of tolerance. In order to allow all trackwork dimensions to be at their limits simultaneously, the negative tolerances of the flangeways must be made 2 units for "F1" and 3 units for "F2". Having allowed these extra tolerances, it is no longer necessary to stipulate minimum flangeway dimensions as they will automatically be on the right side of their minimum values providing "Gn", "Cn", "Sx" and "Flx" are not breached and as such the "Fln" & "F2n" feelers may be removed from the diagram. It is reasonable to assume that the positive tolerance to be allowed on the crossing flangeway should be less than one basic unit of tolerance as "F1" is much smaller than the other specified trackwork dimensions. Also it will be seen that the value of "Gx" is not related to any other critical trackwork dimension and "G" may therefore be assigned a positive tolerance that is any multiple of the one basic unit. A modified diagram of "gauges" in which the shortcomings of Fig. 6 are corrected is shown in Fig. 7.

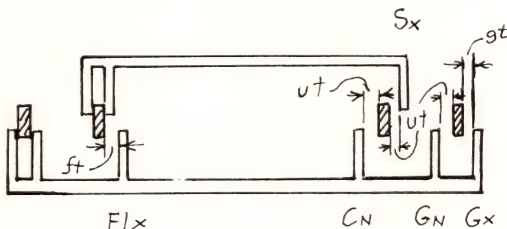


Fig. 7.

Fig. 7.
Looking at the subject mathematically, the above analysis will allow five important relationships to be written and these are as follows:

$$G = G_n + ut$$

$$C = C_n + ut$$

$$S = S_x - ut$$

$$F1 = Flx - ft$$

$$F2 = F2n + 2ut + ft$$

It should be emphasised at this stage. that Fig. 7 is a diagram for analytical

purposes only and not a diagram of constructional gauges. It does however resemble a diagram of checking gauges. It is also emphasised that the method of representing nominal track dimensions as illustrated in Fig. 7 is not the only method, but is the one which best defines the most critical dimensions. For example, on the prototype and on miniature railways, the check rails and wing-rails are bolted to the outer running rails and frogs respectively, employing spacers which define the flangeway dimensions so accurately that the flangeway tolerance is negligible compared with the track-gauge tolerance.

Conclusions.

This analysis of track and wheel-set dimensions will be continued in another issue of Journal. In addition to an analysis of tyre profiles, the critical dimensions and tolerances analysed thus far will be grouped together mathematically so that formulae may be derived which will enable the best practical dimensions to be evaluated for any given gauge or scale.

WANTED.

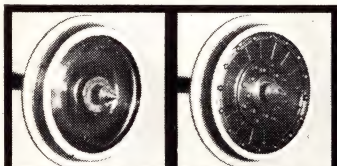
A copy of the book "Balloon stack and sugar cane" which is about the narrow gauge locos and the plantations of Fiji. If any member has a copy for sale, or may know where to obtain a copy please contact:

D.W. Alexander,
16 Hylton Court, Oxclose,
District 3, Washington,
Tyne & Wear, ENGLAND.

WANTED.

A Berg's 48 class diesel. Please forward price and condition to Wal Bennett, 6/42 Wright Street, Renown, Park. S.A. 5008.

Are you fitting the right type of wheel?



COACH - 14mm. Plain disc COACH - 14mm. Mansell

mgw WHEELS

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Wagon	Inside Bearing
9833 45c Set	9855 55c Set
12mm Open Spoke	12mm 10-spoke
Wagon	Inside Bearing
9834 45c Set	9856 55c Set
12mm Mansell	12mm 10-spoke
Wagon	Outside Bearing
9835 45c Set	9857 55c Set
12mm 3-hole	14mm 10-spoke
Disc	Inside bearing
9836 45c Set	9858 55c Set
14mm Disc	14mm 10-spoke
Coach	Outside Bearing
9837 45c Set	9859 55c Set
14mm Mansell	16mm 12-spoke
Coach	Inside Bearing
<u>LOCO TENDER & TRUCK WHEELS</u>	
9851 55c Set	9860 55c Set
10.5mm 10-spoke	16mm 12-spoke
Inside Bearing	Outside Bearing

(A set is two axles with four wheels)

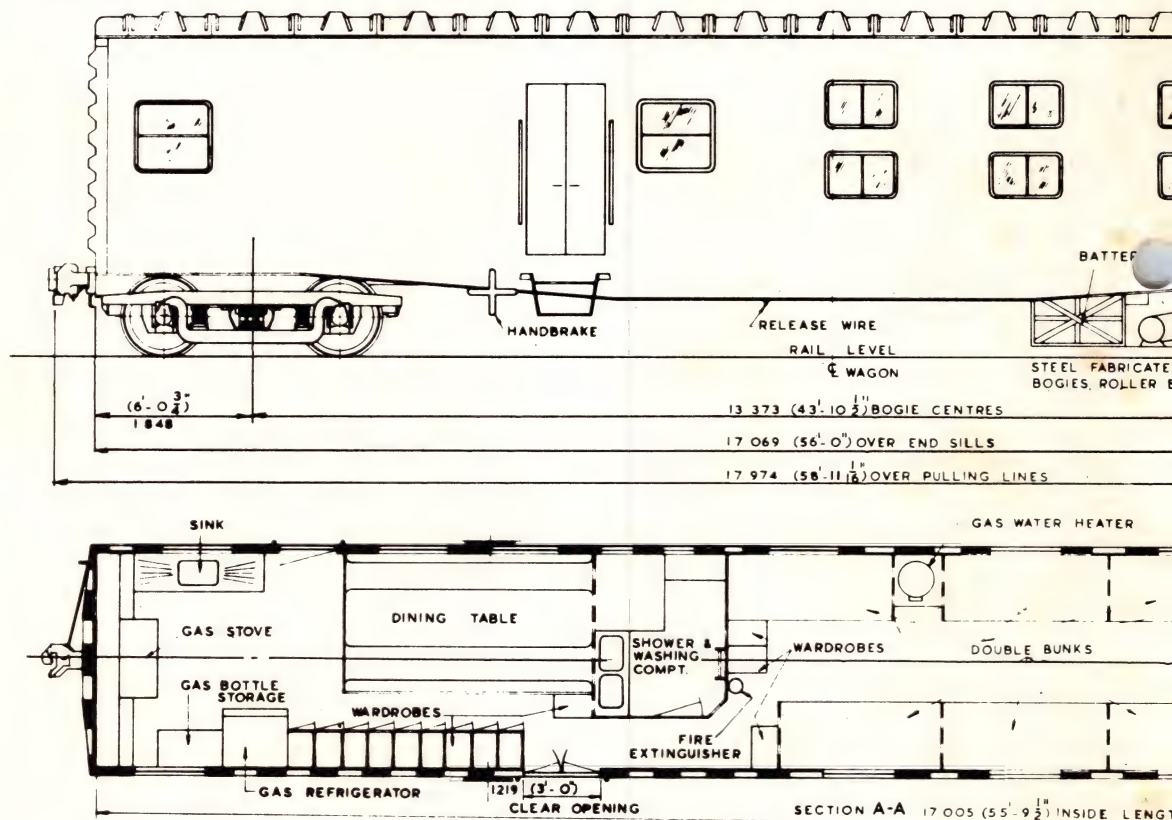
Machine Turned (not pressed) Brass Axle Bearings
24 in packet 80c

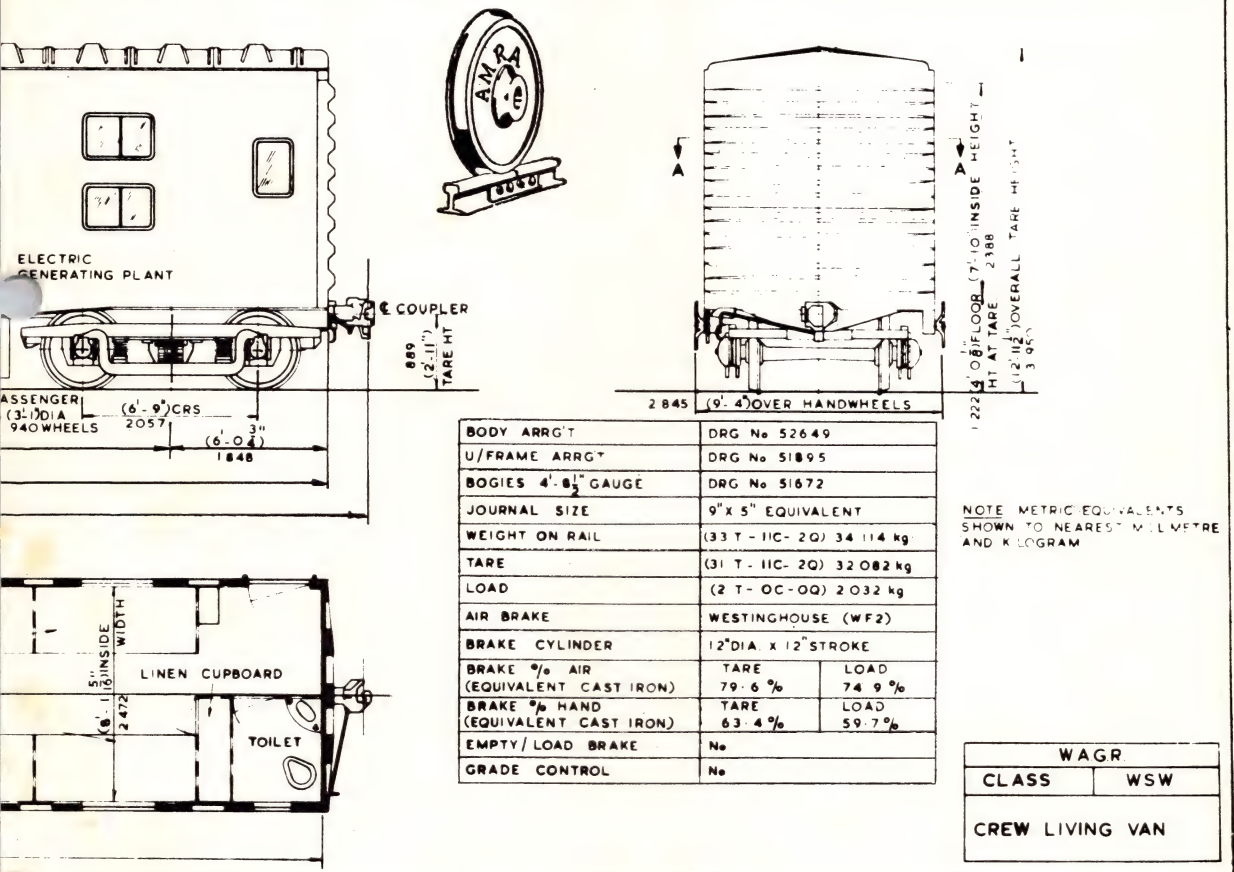
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Photos by John Hutchinson.

LET'S LOOK A LITTLE CLOSER or LITTLE THINGS MEAN A LOT!

By John Hutchinson.

Ten years ago I walked out of an opticians at Swan Hill in northern Victoria, wearing my very first pair of spectacles. I had walked no more than three or four paces from the door, when I saw, for the first time in several years, the fine detail of life which surrounded me - all kinds of minute rubbish was resting in the gutter - little rivers of sand, mud and grit along the edge of the road - and the old battered downpipe of a shop which was riddled with holes and rust. It was an incredible experience, and one I have never forgotten. I had not realised how bad my eyesight was.

It is this experience which is uppermost in my mind, when I indulge myself in my model railway hobby and the creation of a layout.

The modeller who wishes to create a real (?) railway atmosphere in his layout, must look beyond the locomotives and the rolling stock, which seem to hypnotise many a model railway enthusiast. It seems to me that many fellow hobbyists are indulging in a rather one sided love affair - all their efforts, and quite a deal of talk and words, is directed at locomotives and rolling stock. Don't get me wrong - I'm not running down these two important things - I'm just saying - let's get them into true perspective. Scant attention is paid to all the rest of the railway - those little, and not so little, parts of the railway, which make the complete whole. It has been suggested by an English modeller, that this is a legacy of the boxed train sets, which set so many of us on the path to finer modelling. The boxed train set was, in the eyes of Frank Hornby, the complete deal, and within minutes you

were ready to run a train on your lounge room floor...and how many of you have done that?

Earlier I mentioned "real railway atmosphere". Can we really create such an atmosphere? I have heard some people say that they are modelling a certain section of a line, exactly as it was say six years ago. Now who in their right senses can make such a ludicrous claim? Does anybody pretend that they are modelling exactly what something is or was? I suggest that railway modellers cannot create exactly what was - what they are doing, or hope to do - is to create an impression. If we can create that impression, then we have looked past the major works, and have given attention to the other detail - which, after all, is just as important as those locomotives.

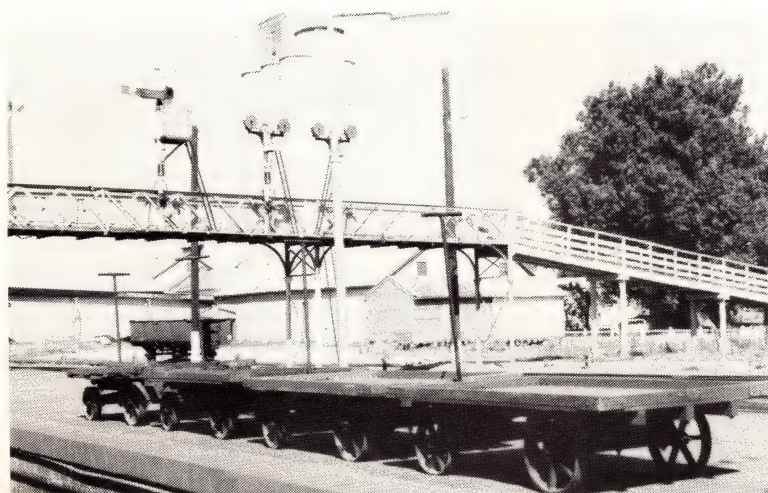
The article is supplemented by some photographs taken around the Victorian Railways workings, during the last three years. Firstly - notice there are no locomotives present, although I must admit a few bits of rolling stock have sneaked into some of the photos! But modellers - look closer and see the detail in the railways, from the familiarity of a signal box and signals, to the less obvious such as the detail on the iron posts at Windsor station. But look, not only at man's creations which we all discuss so freely, but at the work of Mother Nature, who heals the scars, and softens the landscape after the engineers and railway builders have left the place.

I recently read a book, which said in one chapter - look how the railway fits so beautifully into the landscape. And so it does, after several years of tremendous upheaval and earthworks, but



A delightful country station.....Yaapeet in the Mallee.

Bluestone building on platform at Little River.



Handcart trolleys at Wangaratta station.

at their birth they quite possibly created turmoil and a substantial mess. Melbourneites might at this stage, note the state of the underground works - and see exactly what I mean.

But back to the railway detail on the model layout. Of course it would be impossible to put into any model railway scene, everything which you see on the real thing. You would never finish the layout at all, and surely frustration would set in. Any layout when completed, must be a compromise - a balanced compromise. We must decide, in our initial planning, what exactly we want, what we hope to achieve, and what concessions we are prepared to make, and yet create the railway atmosphere we want.

Over the years I have been to many

AMRA Exhibitions, as well as other minor ones. Now I don't wish to be harsh, but isn't it that little detail that was missing from many layouts? Many people seem to have ignored, not entirely, but fairly substantially, the tiny, but important detail....the direction posts, warning signs, the telephone boxes, railway handcarts, people, telegraph poles, loading cranes, tin sheds, track pathways, advertisements, signal wires and levers, footbridges, dirt on the stations and other workings and so on, and so on. The list could be endless.

And so I make a plea....to all so-called modellers....please, oh please yes, let's have the meat on the bone, but don't forget the bone!



Water crane and signals at Wangaratta.



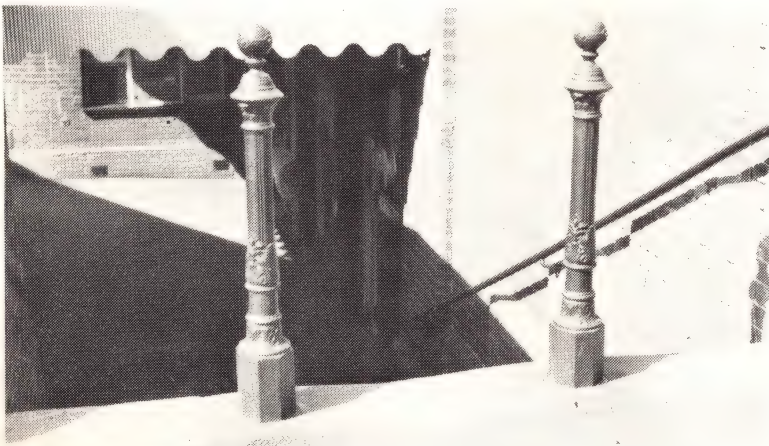
Signalbox and signal at Stratford.



A very beautiful
goods crane at
Meredith.



Goods crane and water
tower at Bright.



Cast iron poles at
the top of the steps
at Windsor station.

EXHIBITIONS - ARE WE DOING IT RIGHT?

By Phil Knife.

Exhibitions are accepted widely as an integral part of our hobby, probably so much so that we take them for granted. Perhaps the time is right to cast a critical eye on the objectives and the organization of our shows. My purpose in writing is to cast a few ideas around, accepting that others with dissenting views may wish to take issue with me in these columns.

To begin then, what are our objectives in staging an Exhibition? I believe these are three-fold, namely:

1. to proudly display our models, for the benefit of the hobby and for other modellers to admire,
2. to demonstrate our hobby to the general public in the best way possible to gain their support and to attract new recruits to the hobby, and
3. to raise money for club expenses and projects, and to help defray the costs involved in exhibiting.

This would be my order of priority for these objectives and upon which I would base organization planning.

Considering each of these objectives in turn, the following thoughts summarize the requirements. As the primary objective is to display our models (whether a single wagon or a complete layout) for the critical examination and admiration of other modellers, they must be of the highest quality and standard. If a competition is involved with the show so that winning entries can be displayed as such, definite standards can be met and enhanced by the spirit of competition. After all, there is no greater incentive to one's own efforts than winning an award in a competition or being able to see actual prize-winning models. The winner, of course, takes great pride in being able to display his work and the visiting public will know that they are seeing the best available models.

The second objective, to display our hobby to the public in the best possible way, is largely taken care of by the first. However, we should cater to the general public in such a way that we leave a good and lasting impression. This means that the hall facilities must be adequate, display of models and layouts must be good and, above all, the working models must be top quality, reliable items that guarantee faultless operation for the duration of the exhibition. Assuming that suitable facilities are available in the chosen hall (and this must include room to move between exhibits, toilets, parking nearby and sufficient external advertising and signposting) attention must be given to the overall display. In a big exhibition in particular, all facets of the hobby must be shown. The layouts exhibited should cover a variety of scales, gauges and prototypes. Too often I have heard it said that a layout must be a "tail-chaser" to attract the public - this is nonsense. Certainly, every Exhibition should have at least one good quality proprietary layout with many trains moving continuously and plenty of action. Equally so, the other end of the spectrum should be represented by high quality layouts featuring realistic movements, scale speeds, shunting operations and so forth, to cater for all modelling interests. The public come to see our hobby as we present it and expect to see the whole thing, not just to be entertained like children at a side-show. More importantly, the visiting modeller appreciates seeing high quality prize-winning layouts of prototypical concept. Visits to the bigger Exhibitions in the United Kingdom demonstrate this point admirably and they do, after all, cater for the same general public as we do.

The third objective, that of raising money, is unfortunately seen by many as the most important. While a financially successful exhibition is to be desired, this must not be allowed to dictate the style of the show being presented. Certainly, the club staging the Exhibition needs to recoup its expenses and would want to reimburse individual exhibitors their expenses as well. This is, of course, the break-even point and it will greatly influence the final admission price to be charged when considered with the numbers expected to attend and the duration of the show.

Having considered the objectives, we must now turn our attention to the organization of the Exhibition itself. This will depend greatly on the size of the show, whether it be a suburban club effort or a major capital city exhibition. However, the principles remain the same whatever the eventual size and duration.

As few of us can afford the luxury of a week off, most of our shows must be staged at weekends. Arrangements need to be made well in advance - many months, in fact. There should be no objection to more than one suburban show on any particular weekend, provided they are not too close to each other in distance. After all, keen modellers will travel across the city to attend all and every Exhibition they can. The general public will probably only visit a show in their immediate area unless, of course, they happen to be driving past and see the signs outside the Exhibition hall. Probably the most important point here is advertising - the better it is done and the wider afield it is placed, the better will be the response by public and other modellers alike.

Turning again to the early preparations, having decided the date and secured the venue, the format of the show must be planned. As already discussed, it should include a wide variety of top quality, reliable layouts representing a choice of scales, styles and prototypes. The show

should also include displays of static models, particularly competition entries and prize-winners, live demonstrations of modelling techniques, opportunities for queries to be answered and (for the big exhibitions in particular) plentiful trade support. A very successful innovation at a recent Sydney suburban Exhibition was a "bring and buy" stand for model railway items. Business on this stand over the two days was nothing short of

phenomenal and the organizing club took a handsome profit out of 10% of every transaction. Such a facility deserves very careful consideration in the initial planning for any Exhibition.

When selecting layouts for display, the organizers should inspect the candidates in their home settings and critically observe their operation. No promises to finish a project in time for the Exhibition can be accepted - a dead-line for final inspection of at least three months beforehand must be enforced. Further more, each layout accepted should be photographed in its home setting before the show for subsequent publicity. There is nothing worse than the usual washed-out flash pictures of layouts at Exhibitions that are published afterwards. For the bigger shows we can take advantage of the sort of advance publicity the UK model press affords clubs over there - a short article listing the exhibitors, with photographs, a month or so before the show. I am sure Journal would be more than happy to accept such a pre-exhibition feature.

In summary then, an Exhibition should be aimed at the serious modeller before the general public, should be planned many months in advance, accepting only first-quality, reliable, working layouts and should be widely advertised to ensure success. After all, the general public will come any way, as long as the message gets to them beforehand. This does not mean that we don't care about them - we must show that we do. However, if the show is

such that the serious modeller is attracted and held, the members of the public can only be impressed by the high standard the Exhibition sets. Let us put behind us forever those shoddy, ill-planned shows that are so common, with layouts that seem to run only by finger-power, no thought given to display or attraction and that leave the impression that we are no better than "boys playing trains". We must aim to put into its proper prospective what is, after all, the greatest of all hobbies.

ADDITION TO "EXHIBITIONS - ARE WE DOING IT RIGHT?"

Since writing this article I have received the February 1976 copy of Railway Modeller. While I am flattered that the Editorial in that magazine echoes many of my own thoughts on Exhibitions, I will point out that my own writing is original and was not influenced by their views.

= = = = =

LOCO REVIEW

Three Rovex/Hornby 00 scale locomotives were offered to the N.S.W. Branch of A.M.R.A. by Intertoy Australia for a brief review period, because the models are in constant demand and use as pre-production and pre-distribution samples. They will undoubtedly be of great interest to modellers of the English scene. The Stanier designed LMS 4-6-0 "Black Five" is now offered as a Silver Seal model R061; a new model for Southern Region followers, the Urie-Maunsell N15 class "King Arthur" 4-6-0 is in regular form; and for the L.N.E.R. enthusiasts there is a R252 J83 on a standard 0-6-0 chassis.

The models, having been used as pre-distribution samples, had been subjected to rough treatment and had valve gear, and side rods straightened as a matter of principle before any running tests were carried out. The blackened armature segments on the J83 responded quickly to three drops of 226D, but the rubber tyres on the tender drive of the "Black Five" could have been replaced with some advantage to smooth running.

The Stanier designed 5MT 4-6-0 class better known as the "Black Five" was introduced in the LMS in 1934, and became one of the most numerous and successful 4-6-0 class locomotives in the U.K. Some engines had double chimneys and

twelve were fitted with Capriotti valve gear. The prototype of the Hornby Silver Seal model was fitted with a top feed in the steam dome and the general dimensions of the model compare well with the Roche drawings.

Evening Star 2-10-0 and the Silver Seal Britannia 4-6-2. The control from slow to maximum speed is quite smooth and the drawbar capacity, because of the rubber tyres on the R.H.S. leading and trailing tender wheels, is very good. Six ex three rail all metal Hornby Dublo type coaches with built in brakes in the on position were pulled with ease up a long curving 2% grade, the only criticism being that the rough handling during demonstrations required a rubber tyre change to overcome a tender wobble.

The locomotive cylinders generally match the Stanier design, but seem to be somewhat smaller than perspective viewing requires. The single slide bar (as used for the Britannia class) appears to have been fitted without regard to the prototype and its many variations. The valve gear fitted will also be disappointing to LMS enthusiasts who have neither the skill nor the access and affluence for the improvements required.

Contd. page 91.



FOR READER'S LETTERS

The Editor,
Dear Sir,

Further to Geoff Brown's codings of Victorian Railways wagons in AMRA Journal No. 116 July/Sept. 1975 I have found the following changes as at July 1975.

Bogie.

BB Box van all converted to BP or BMX.
CJ Bulk cement hopper all converted to CJF.
GJX Bulk grain hopper 200 new units in service 1972.
HW Poison train staff van ex AE.q
LL Sheep wagon converted to LF.
LP Sheep wagon converted to LF.
MM Cattle wagon converted to MF.
QW Well wagon converted to QWF.
SCX Coil steel wagon converted to SX.
SKF Container flat converted from SKX by fitting aligned bogies.
TWX Oil tank wagon ex NSW PTC stock.
V Louvre van converted to VF.
ZF Bogie brakevan.
ZLP Bogie brakevan.

Fixed wheelbase.

FJ Bulk flour wagon converted to J
I Mainly scrapped) Total of 85 con-
IA Mainly scrapped) verted to IT.
OT Oil tanker.
ZP Brakevan mainly scrapped.
ZL Brakevan mainly scrapped, 20 converted to ZB.
ZD Brakevan converted from ZP (1 only).

W. BATES

XXXXXXXXXXXXXXXXXXXX

The Editor,
Dear Sir,

I have just received my January-March issue of the Journal and after reading your editorial, I am enclosing a photograph of a recently completed locomotive, which you may find interesting enough to include in the next issue.

The locomotive is in O gauge and started out as a basic body kit from one of the "Charles Covey" range. It is a North British J 83 class and one of its duties was I believe, station pilot at Edinburgh, Scotland.

This is my first venture in O gauge and I was very pleased with the quality of the contents of this kit (he has recently introduced an L.M.S. "Duchess" and I am sorely tempted as it is only £33.00 and at to-day's prices, I don't think that this is very expensive). Getting back to the J.83, this went together very well and all the brass parts (the same idea as the well known Jamieson kits in OO gauge) matched up perfectly with no hacking or filing before one starts assembly. A drawing is included and I believe a separate chassis kit is available, though I constructed my own out of 1/16" brass sheet, the axles running in 5/16" bushes (from CCW) powered by a Pitman five pole motor.

Last year I was down in London and I called into his shop to pick up this kit and I was very surprised, as he is well stocked up and his advert in the Model Press is correct, not a load of "Flannel" that some model shops use to get customers, especially those advertising mail order. His shop was like Alladin's cave, with kits, wheels, track etc. all stocked up on the walls and his "Bits and Pieces" were like a feast to scratch-builders. He has even quite a lot of Hornby "O" gauge spare parts such as replacement driving wheels, handrail knobs (quite a range of different types) bulbs, buffers and even replacement axle-boxes for the famous Princess Elizabeth locomotive of pre-war days. Should any fellow members

ever ask you about this chap and what his service is like, then I can recommend him, as I have had nothing but really excellent service and by return of post at that.

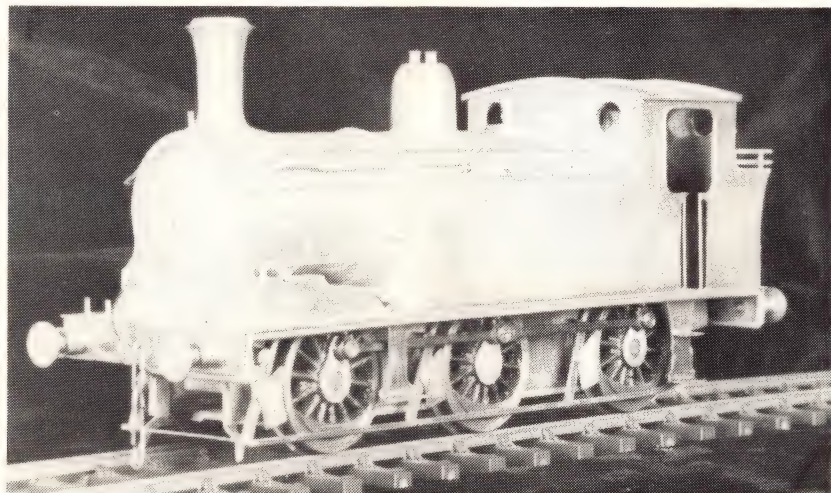
I myself am a scratch-builder and like I say, this is my first O gauge model, but deep down, even though I have caught the O gauge bug, I think that I will remain true to OO gauge as this is what I started in. My recent completions in this gauge have been a pair of L.N.E.R. K4 locos (The Great Marquess), two "V.2", two "B1" and an O-6-O Caledonian, though I must admit these latter five started out as Jamieson kits and ended up as super-detailed models.

Of these, I have only kept the K4, the rest being sold to fellow modellers who have pestered me for them and any way, they helped me to get my new car and keep it on the road. When I started the K4, this was a commission, so I decided to do two and keep one myself, but I am not going to part with her, even knowing that I could sell it for quite a good price, (I recently wrote to one of the firms who advertise in the modeller asking for a quote, back came the reply of £120.00) down in London. When the second one was finished and handed over, the customer was over the moon and has asked me to

do a repeat in O gauge along with a couple of 4-4-0 Glen locos, so I have enough to keep me going.

I am also about to offer a service very shortly to scratch-builders in the U.K. and I would like to know if any fellow members in Australia would be interested in this. Recently, I came to an arrangement with Tenshodo to retail spares and this is what I have on order and which should be arriving in about three weeks time. Motors, wheels, gearboxes, axleboxes, the new hexagonal crankpins/special box spanner, and depending on availability in Japan, valve gears in kit form. Unfortunately, I cannot give you any prices at the moment, as I shall have to wait and see what duty is charged by the Customs and postage etc.

Another item I have available is the low-melting solder used in the assembly of white metal kits and I am enclosing a sample for your inspection. My packets contain three sticks of this length for 20p or 5 packets for £1.00 plus postage. Messrs. E.A.M.E.S charge 22p for 2 lengths of this size and GEM charge 30p for a packet (but I am not sure as to the amount, though I know that these packets are not very big and my own give value for money) so if any is required I can shop by return of post.



North British
J.83 loco kit
in O gauge as-
sembled by David
Alexander.

Well, I'll have to close now and I look forward to hearing from you, incidentally, I am waiting for a call from Ivo Bunker and Corinne as they are somewhere on the Continent and they are calling in on me when they return to tour the U.K. I must say I am looking forward to their visit, as the last time I spoke to them was when I was at sea (broken down and lying at anchor in Sydney Harbour) in 1963 and we will have a lot to talk about regarding model railways.

David Alexander.

16, Hylton Court,
Oxclose, District 3,
Washington, Tyne & Wear,
England.

Editor's note: The stick of low-melt solder was 55mm long and of triangular section with 2mm sides.

NEWS FROM OTHER CLUBS.

Nepean Sub-Branch A.M.R.A.

Our Annual General Meeting was held on 28th February 1976 at which all positions of office were satisfactorily re-filled. Following the meeting was a slide screening of live steam activities in Europe taken by Mr. Bob Vanderklei while on tour recently.

An Exhibition will be held at Warri-moo Hall on 12th, 13th, 14th June, 1976. Keith Wilcox is the organiser and from reports of exhibits to be seen this Exhibition is hoped to be the most successful of any presented by the Nepean Branch. A further Exhibition is being planned to be held at Warrimoo on the Australia Day weekend in January, 1977.

Persons wishing to enquire about membership in the Nepean Branch should ring Mr. M. Guest (Hon. Sec.) St. Mary's 623-5912.

B. Dobbins
Public Relations Officer.

Contd. from page 88.

The locomotive and tender body are moulded plastic with a pleasing satin finish and separate wire hand rails. The die cast chassis has a driving wheel base of 58mm with equal axle spacing in lieu of the prototype 7'0" and 8'0" spacing, but all driving wheels are flanged with a commendable flange depth of approximately 0.75mm. The back to back spacing of 14mm is also an improvement and can be increased to the modeller's standard of 14.5mm with a light judicious tap on the axle on the uninsulated side of the driving wheels. The bogie is of a standard Rovex/Hornby style and has a radius arm which is about 2mm overlength and which is fitted with wheels which are of the correct diameter, but as distinct from the driving wheels have the older pattern flanges which are need-lessly oversize. The tender drive is from the standard three pole Ringfield motor and is identical with the tender drive mechanism in the Silver Seal

In summary the R061 4-6-0 Stanier LMS "Black Five" is a pre-distribution model which has survived demonstration and sample handling very well indeed. The satin finish and fine lining give a very satisfactory impression of the prototype and the model has a most effective and positive electrical coupling between the loco and tender.

It is to be hoped that the subsequent production models will feature a shorter radius arm on the bogie, that the bogie wheel flanges will match the commendable depth of the driving wheel flanges and that some effort will be made to improve the slide bar and valve gear.

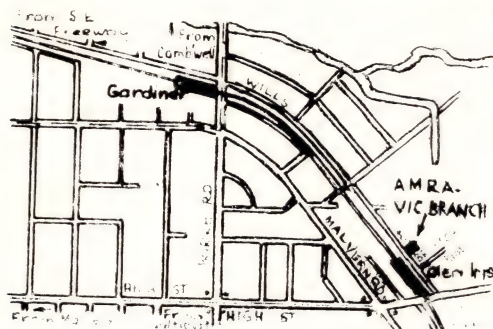
At a recommended price of \$49.95 such relatively minor detail improvements could be reasonably required by modellers as well as the toy market areas.

The "King Arthur" 4-6-0, and the J83 0-6-0 tank will be reviewed in the next issue.

BRANCH NOTES

VICTORIAN

BRANCH NOTES



General Meetings are held on the second Thursday of each month commencing at 8 p.m., at the clubrooms, 92 Wills St. Glen Iris. The clubrooms are open from 7.30 p.m. on these nights for operation of your HO or N trains on the club layouts. Working bees or operation on the club layouts are held on Wednesday nights with the exception of the Wednesday night before the general meeting.

The Annual General Meeting was held on 8th April and the following officers were elected to the Committee of Management:

President	J.J. Treseder
Vice President	R.J. Brownbill
Secretary	J.J. Harry
Treasurer	S. St.J. Westerman
Committee	W.J. Morehouse
	N.A. Ryan
	D.J. Morrison

Other appointments were:

Librarian	T.B. Southwell
Exhibition Org.	A.H.G. Scott
Property C'ttee	G.H. Brown
	W.D. Brisbane
	R.J. Brownbill

Our annual Exhibition will be held at Camberwell Civic Centre over the Moomba weekend 11th-14th March 1977,

and we have again booked the theatrette as well as the main hall. Jim Scott and his committee have enough tentative bookings from interested organisations and private members to fill all available space, and the standards which must be met to gain entry into the Exhibition will ensure that all exhibits will please even the most critical of viewers.

If you will be in Melbourne over that weekend and would like to assist us to staff the Exhibition, will you please let Bob Edwards (phone 232-6887) know the time and dates you will be available as he is organising the roster. Mrs. Win Scott will be seeking help from ladies to organise meals, and she can be contacted either through Bob or by telephoning 509 5042.

If any interstate member will be visiting us during the period of the Exhibition, we will endeavour to arrange accommodation and enquiries in this regard should be directed to the Exhibition Organiser.

The agenda for the next three months will be as follows:

September.

9th General meeting. Multiple clinic night. Competition photograph guardsvan.

October.

14th General meeting. Guest speaker, Mr. F. Niquet. Competition model of a guardsvan.

23rd Rail trip to Korumburra.

30th Exhibition at St. Davids Church Glenhuntly.

November.

11th General meeting. Film night hosted by Ray Batty. Competition photograph unusual rail scene.

28th Working bee at club rooms.

December.

9th General meeting. Christmas party and presentation of annual awards. Competition - judging and presentation of trophies for:

Bob Edwards trophy for best of year's models.

Malvue trophy for best of winning entries in year's photo competition.

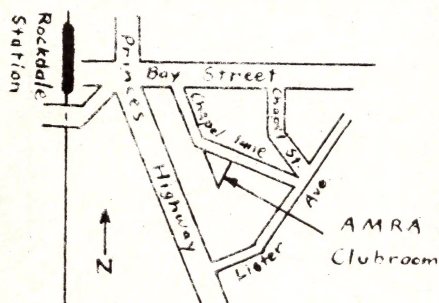
H.G. Armstrong trophy for the best scratch built item submitted in open competition.

During the Exhibition two competitions for modelling will be run and entries will be required for dioramas and scratch built models. Details of how entries are to be submitted will be forwarded to Branches and included in October/December Journal.

John J. Harry.
Hon. Sec.

SOUTH AUSTRALIAN BRANCH

Although the South Australian Branch is not yet formed, the S.A. Representative is Wal Bennett, 6/42 Wright Street, Renown Park, Adelaide, 5008.

NEW SOUTH WALES BRANCH NOTES

The attendances at meetings so far this year have been more encouraging than last year. Layout operation meetings remain popular, and the newly installed turntable on the wall layout is getting plenty of use. The Lima 38 class loco has been well to the

fore lately. It is very heartening to see a major manufacturer producing examples of Australian prototype trains.

March 6th saw Ray Pilgrim demonstrating air brush techniques and on April 3rd John Dunn gave his ever popular scenery demonstration.

The Branch had a small stand at the Chatswood M.R. Exhibition held in March. The stand included large photographs of prototype and model railways, while the centre of attraction was June Larmour's biscuit tin layout.

Unfortunately the advertised film was not available for the Buffet Tea and Film Night held on May 15th. However, an excellent tea was arranged by the ladies and a substitute film program was provided.

Exhibition time is with us and once again the call for volunteer workers is going out. If you would like to volunteer for duty put your name down on the list at the clubrooms or drop a line to the Exhibition Organiser, AMRA N.S.W. Branch, P.O. Box 194, Rockdale, N.S.W. 2216, for more details. The jobs are many and varied and it can be a lot of fun if you approach it with the right attitude. Don't worry though if the pace gets too hot for you and you feel like crying, we'll put you in the kitchen peeling onions!

Graham Larmour has, for many years, carried the job of Exhibition Organiser and in order to allow Graham a well-earned rest, we would like to call for a volunteer to be groomed for organising future Exhibitions. This position is not simply a job, it is an opportunity to learn and provides organisational experience which can be very useful in other spheres. Anyone who would like to apply should drop a line to the address given above.

Nineteen seventy-six has been a very good year for the clubrooms at Rockdale. Progress on various projects has been spectacular, helped in no small way by a harmonious committee that works well together. By the way, we would like

to say that members are welcome to observe the proceedings at committee meetings if they wish. Committee meetings are held on the second Wednesday of the month at Rockdale. Come along and find out how the branch is run at first-hand.

As well as committee meetings, Wednesday evenings have become regular work nights, usually with about a dozen workers turning up. Each has a specific project to attend to, and in this way the mezzanine floor has been largely completed, and other jobs too numerous to mention have been dealt with.

The mezzanine floor provides a classic example of the delay inherent in communicating with members through these notes. By the time members were reading "the next project scheduled is the construction of a mezzanine floor" in the last Journal, the floor was already complete. This time lag problem has exercised a lot of minds and many suggestions have been made on overcoming it, however, there is one big problem that remains insoluble - THE COST.

September.

Sat. 4th Layout operation.
Fri. 10th General modelling clinic.
Sat. 18th Exhibition working bee.
Fri. 24th Exhibition working bee.

October.

Fri. 1st Exhibition setting up
Sat. 2nd Exhibition-Sydney Lower Town Hall.
Sun. 3rd Exhibition-Sydney Lower Town Hall.
Mon. 4th Exhibition-Sydney Lower Town Hall.
Fri. 8th Exhibition clean up.
Sat. 16th Post exhibition discussion.
Fri. 22nd Layout operation.

QUEENSLAND BRANCH REPORT

Our April meeting was held at a small township on the Beaudesert Branch called Jimboomba. John McDicken was the host

and following the discussion of branch business, those who attended were shown some excellent films on both overseas and Australian topics. The May meeting brought the election of branch officers and was hosted by Steve Suggit. Elected officers for the coming twelve months:

President	Arthur Robinson
Vice President	John McDicken
Secretary	Jim Christie
Treasurer	Arthur Hayes
Branch Reporter	Neil Johnman
Country/overseas liason officer	- Jim Bilby.

Following the meeting, some of those who attended saw a few of Steve's fine models of Queensland, interstate and overseas prototypes in Sn3½" and "S" gauges. Many thanks are extended to Eric Lyons for his long service as an office bearer in AMRA, Queensland.

Future meeting dates are:

Aug. 26th	John Hill, 74 Pickworth Street, Upper Mt. Gravatt.
Sept. 23rd	Arthur Hayes, 8 Joyce Street, Coopers Plains. (check by phoning 345 1616.
Oct. 28th	Steve Malone, 27 Toombul Terrace, Toombul.
Nov. 25th	Richard Peeters, 68 Bilston Street, Keperra.

Once again the branch took part in the Redbank Railway Museum field day. For this year's display we ran a Lima 44 around a circle of track for 2½ hours. The public had to guess how many circuits the locomotive would make in the given time. Many thanks are extended to A.S. Knight, Lima Agents, for kindly donating the prize which was a Lima 44 with the "Indian Pacific" train. Three dioramas were entered in this year's competition, all on a Queensland Railway theme. The winning entry, by Arthur Hayes, depicted a main line with siding, station, cattle yards, house and a few of Arthur's

models from his large selection of Queensland railways rolling stock.

The branch will again be holding its annual auction at Eric Lyons', 112 Reeves Street, Clayfield, on September 4th, so start gathering together all those unwanted magazines, model railway equipment etc. The club does, however, deduct 10% commission on all articles sold. This function is not confined to AMRA, so tell your friends to come.

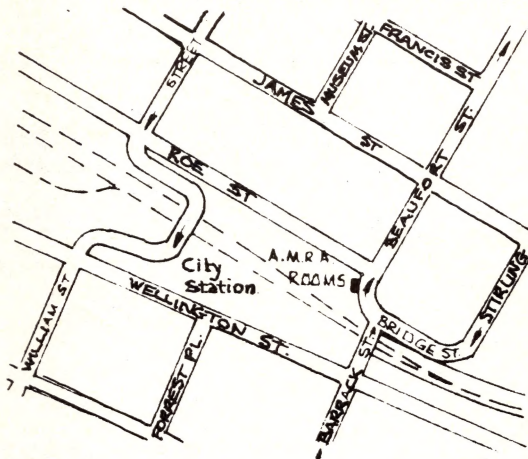
Once again the branch will participate in the Hobby Exhibition in the City Hall, between 15th and 20th November.

The Christmas barbecue and model competitions are on again in December. The barbecue is at the home of Greg Gabb, 35 Pack Street, Jamboree Heights.

Jim Christie, our current Secretary, can be contacted at 32 Wana Street, Sunnybank, or during business hours by phoning 48 5161.

Neil Johnman.
Branch Reporter.

WESTERN AUSTRALIAN BRANCH NOTES



Meetings are held in the clubrooms, 1 Beaufort Street, Perth, on the FIRST MONDAY of each month at 8 p.m. with informal gatherings on the SECOND WEDNESDAY of the month as well as Saturday afternoons as designated by your program.

Visitors and prospective members of AMRA are always welcome to any of our meetings. Anyone interested can phone or write to the Secretary for further information - Mrs. Margaret Eagles, 26 Swan Road, High Wycombe, W.A. 6057. phone: 60 5005.

COMING EXHIBITIONS.

Following the very successful 1975 Model Railway Exhibition, the Western Australian Branch is planning another for this year.

Dates and opening times.

Sat. 9th October 10.30 am to 9.00 pm.

Sun. 10th October 12 noon to 7.00 pm.

Mon. 11th October 10.00 am to 6.00 pm.

Admission charges.

Family - \$1.50

Adults - 50¢

School children & pensioners - 20¢.

Yagoona Model Railway Club, in conjunction with Yagoona Lion's Club, presents 3rd Exhibition at Lion's Club Hall Hume Highway, Yagoona, on Friday, 3rd September, from 7.30 p.m. to 10.30 pm.
Sat. 3/9/76 from 9 a.m. to 10.30 p.m.
Sun. 5/9/76 from 11 a.m. to 5.30 p.m.

MERITORIOUS AWARDS.

Ivo Bunker	John Dunn
Bob Gorrell	Graham Larmour
Alan Dowel	Ken Down
Stephen Suggitt	David Ellis
Rex Little	Arthur Robinson
Norm Read	Bruce Lovett
Jack Treseder	Eric Doherty
Mal Baker	June Larmour
John Sneddon	

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